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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

FEB 15 1979

Docket Nos.: STN 50-556
STN 50-557

APPLICANT: Public Service Company of Oklahoma

FACILITY: Black Fox Station, Units 1 and 2

SUBJECT: SUMMARY OF JANUARY 23, 1979 MEETING

On January 23, 1979, we met with representatives of Public Service Company of Oklahoma (the applicant) and its agents Black & Veatch Consulting Engineers, General Electric Company, S. Levy, Incorporated, and Isham, Lincoln & Beale in Bethesda, Maryland to discuss several matters related to its application for a construction permit for the proposed Black Fox Station, Units 1 and 2. Also present at the meeting was a representative of MHB Technical Associates, consultant to the intervenors in the ongoing public hearing for the Black Fox Station. An attendance list is enclosed.

The matters discussed at the meeting and a summary of the most significant aspects of each are presented below:

1. Impact of General Electric Company's "Interim Containment Loads Report, Revision II" on the Black Fox Station Design

The applicant had advised us informally that the refined load definitions in the subject document would necessitate certain minor changes to the Black Fox Station Mark III containment design. Since we were heretofore unaware that these refined load definitions would necessitate any changes in the design of plants utilizing Mark III containments, we requested that the applicant meet with us to discuss this matter.

The General Electric Company had submitted the subject report on the GESSAR Nuclear Island docket as part of its ongoing load evaluation program for the Mark III containment design. The applicant reported that the Mark III containment design for the Black Fox Station is essentially identical to that for the GESSAR Nuclear Island. The only significant differences are that the Black Fox Station Mark III containment design utilizes a lower service water temperature and includes an elevator above the hydraulic control unit floor. Accordingly, the applicant determined that the subject document is applicable to the Black Fox Station design and, in order to provide the latest load information in its application,

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advised us that it intends to (1) incorporate the subject document in the Black Fox Station application, (2) design the Black Fox Station structures, systems and components to accommodate the loads defined therein, and (3) revise the existing Appendix 3C to the Preliminary Safety Analysis Report accordingly.

The applicant advised us that the design changes necessitated by the refined load definitions are not of the magnitude that would normally be reflected in licensing documentation; nevertheless, it wanted to make us aware of them. The applicant pointed out that the refined loads could likely be accommodated by the present design, however, in order to provide increased margins of safety in the Black Fox Station design, it had decided to strengthen the weir walls and to relocate or add additional stiffeners on the outside of the containment vessels.

We acknowledged the information provided by the applicant and agreed that the design changes are minor and can be readily accommodated in the Black Fox Station Mark III containment design.

2. Safety-Relief Valve Discharge Phasing

We had previously discussed with the applicant our position that the loads from simultaneous safety-relief valve discharge be conservatively assumed to be in-phase. We had also pointed out that our position includes not only the maximum pressures that result from safety-relief valve actuation, but also the loads resulting from the oscillation of the bubbles produced by the discharging safety-relief valves. We had also noted that the applicant had already committed to consider the maximum pressures that result from safety-relief valve actuation in the Black Fox Station design; however, the manner in which bubble oscillations were to be considered was not clear.

The applicant stated that in-phase bubble oscillation was considered in the design of the concrete structures for the Black Fox Station; however, it intended to rely on the methodology for combining bubble oscillations described in Attachment M to General Electric Company's "Interim Containment Loads Report, Revision II" for the design of equipment. The applicant maintained that the isolated assumption of in-phase bubble oscillation for the design of equipment may not always be conservative. We pointed out that we are reviewing General Electric Company's "Interim Containment Loads Report, Revision II" on a continuing generic basis for all Mark III containment plants and have not yet approved the methodology described in Attachment M. Therefore, we maintained that in addition to the methodology described in Attachment M, the applicant should consider in-phase bubble oscillation for the design of equipment. The applicant disagreed with our position and requested that our position be appealed to the Director, Division of Systems Safety.

The matter was discussed with the Director, Division of Systems Safety and it was agreed that since (1) in-phase bubble oscillation was considered in the design of the concrete structures for the Black Fox Station, (2) the applicant stated that it was willing to implement the outcome of our generic review of the methodology described in Attachment M, (3) in-phase bubble oscillation will be considered as part of the generic application of the methodology described in Attachment M and (4) reasonable assurance existed that our review of the methodology described in Attachment M would be completed in ample time for the applicant to implement any changes deemed necessary in the final design of equipment for the Black Fox Station, it would be acceptable for the applicant to simply commit to implementing the outcome of our generic review of the methodology contained in Attachment M. We agreed to provide the applicant with a statement of our revised position on this matter for its consideration.

3. Load Combination Methodology

By letter dated October 31, 1978, we advised the applicant of our position that except for those load combinations addressed in NUREG-0484, "Methodology for Combining Dynamic Responses," which can be combined using the square-root-of-the-sum-of-the-squares (SRSS) method, the loads be combined using the absolute summation method. The applicant responded by letter dated December 20, 1978, stating that it was prepared to commit to use the absolute summation method in the design of structures and the SRSS method for those systems and components that meet the Newmark - Kennedy criteria. The applicant requested that it be provided the opportunity to discuss this approach with us.

We advised the applicant that as part of our continuing generic review of load combination methodology, we have under active consideration the use of the Newmark - Kennedy criteria but have not yet approved its use. We further advised the applicant that until such time as we can conclude that its use is acceptable, we require conformance to our present criteria for combining loads. The applicant indicated its desire to consider further the matter of load combination methodology, including that for combining loads associated with structures.

4. Fire Protection

By our motion dated January 8, 1979, we requested that the presiding Atomic Safety and Licensing Board in the ongoing public hearing rule that the applicant modify its Preliminary Safety Analysis Report to reflect the use of an exposure fire as a design basis for its fire protection program. The applicant had inquired why the design basis fire as specified in Revision 0 to Branch Technical Position APCSB 9.5-1, "Guidelines for Fire Protection for Nuclear Power Plants," was not acceptable and requested that it be provided the opportunity to discuss this matter with us.

We advised the applicant that the definition of the design basis fire as specified in Revision 0 to Branch Technical Position APCSB 9.5-1, that fire which is considered to cause the most damage, is very difficult to implement. The design basis fire has been defined more explicitly in later revisions to Branch Technical Position APCSB 9.5-1 as well as in Regulatory Guide 1.120, "Fire Protection Guidelines for Nuclear Power Plants," as an exposure fire. The applicant indicated that it now better understood our position on this matter and would consider it further.

Cecil O. Thomas, Project Manager
Light Water Reactors Branch No. 1
Division of Project Management

Enclosure:
Attendance List

cc: See next page

ENCLOSURE

ATTENDANCE LIST
JANUARY 23, 1979 MEETING WITH
PUBLIC SERVICE COMPANY OF OKLAHOMA
BLACK FOX STATION, UNITS 1 AND 2

Public Service Company of Oklahoma

V. Conrad
J. West

Black & Veatch Consulting Engineers

D. Guyot
L. Thurman
E. Cox

General Electric Company

L. Sobon

S. Levy, Incorporated

E. Fuller

Isham, Lincoln & Beale

J. Gallo
G. Nelson

MHB Technical Associates

G. Minor

Misscellaneous

L. Carson* (Fortune Magazine)

Nuclear Regulatory Commission

C. Thomas
L. Davis
C. Woodhead
M. Fields*
W. Butler*
S. Varga*
R. Tedesco*
C. Anderson*
R. Bosnak*
J. Pulsipher*
S. Hou*
H. Polk*
R. Mattu*
H. Brammer*
J. Knight*
F. Schauer*
V. Benarova*
R. Mattson*

* Denotes part-time attendance.